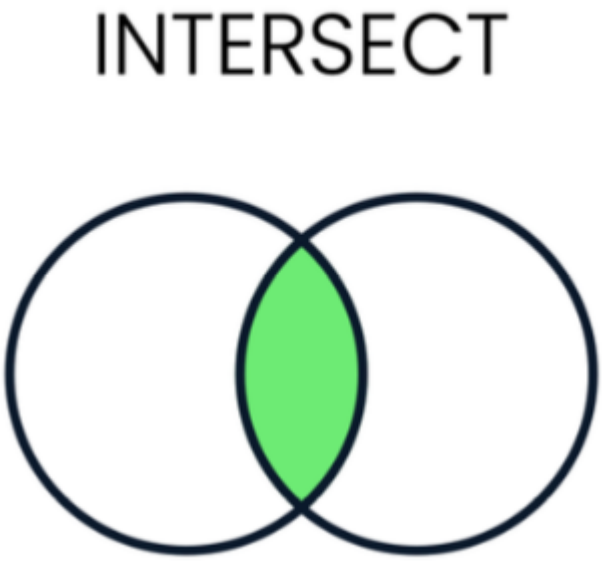
The difference between INTERSECT and INNER JOIN

Overview

`INTERSECT` compares entire rows across two result sets, whereas `INNER JOIN` combines columns from two tables based on a condition.

What INTERSECT does

- `INTERSECT` is used to get common rows across the datasets.
- It's not necessary to have any relationship between the tables we want to harvest the data.



Example

Imagine that we have following two tables.

Subject Table (subjects)

subject_id	subject_name
1	English
2	Science
3	PE
4	History
5	Math

Teacher Table (teachers)

teacher_id	teacher_name	subject_id
1	Andy	1
2	Bob	2
3	Charlie	3
4	David	4
5	Eric	5

Syntax

```
SELECT subject_id
FROM   subjects
INTERSECT
SELECT subject_id
FROM   teachers
ORDER  BY subject_id;
```

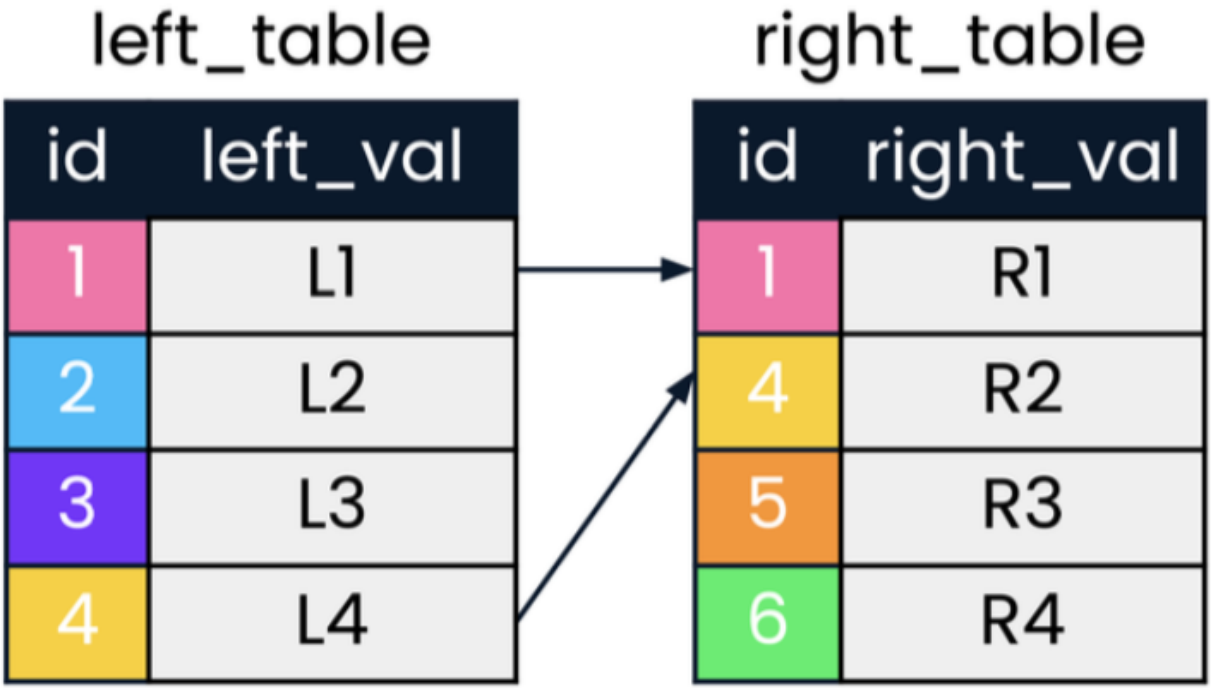
Result

Retrieved the common rows across the two datasets, the result of `SELECT subject_id FROM subjects` and the other one of `SELECT subject_id FROM teachers` (and it's going to be every row in this case).

subject_id
1
2
3
4
5

What INNER JOIN does

- `INNER JOIN` is used to combine the rows from two tables based on a related column between them.
- It requires a join condition to be specified, typically matching key columns between tables.



Example

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2	Bob	2
3	Charlie	3
4	David	4
5	Eric	5

Syntax

```
SELECT teacher_id,
       teacher_name,
       subject_name
FROM   subjects sbj
       INNER JOIN teachers tcr
               ON sbj.subject_id = tcr.subject_id;
```

Result

The two table are joined by the subject_id row. In this case, we can see the subject name that each teacher is in charge of.

teacher_id	teacher_name	subject_name
1	Andy	English
2	Bob	Science
3	Charlie	PE
4	David	History
5	Eric	Math

Summary

`INTERSECT` is uset to find common rows in two datasets, while `INNER JOIN` is used to connect tables based on a defined relationship.